

Bill 25 (2019), CD2 Testimony

MISC. COM. 291

Bill 25 CD2 (2019) - Comments

May 18, 2020

Dear Committee Chair Menor, Vice Chair Waters and ZPH Committee Members,

I once strongly supported Bill 25 as proposed by Councilmember Elefante (Bill 25 (2019), CD2, Proposed FD1); however, because of numerous changes made since then, I will only submit comments.

The urgency of passing a climate-strong Bill 25 this year cannot be overstated:

The problem: Climate scientists continue to warn us that intensive actions to reduce greenhouse gases in our atmosphere are needed NOW if we are to hold the global temperature rise below 3 degrees Centigrade—literally a point of no return from Earth as we know it. (See Climate Change—The Facts in 4 Minutes ; click the picture that appears.)

A partial solution: Bill 25 as written will make two substantive changes in the lives of Hawaii's citizens:

- 1) How we heat water: use of solar or other renewable energy source as opposed to gas
- 2) How we get around the island: use electric vehicles (EVs), not fossil fuel-driven vehicles

It is up to you, our leaders, to understand the crisis we are in, and make these new options available to as many of Hawaii's citizens as possible. Bill 25 is not a total solution but a critical first step. It will encourage people to take small, incremental steps in their own lives that can make a significant difference when adopted worldwide. And it can save residents a lot of money over time.

The benefits: Long-term economic benefits will accrue to Hawaii's citizens from the passage of Bill 25:

- 1) Water heating: After the initial cost for solar panels is paid off (3-5 yrs), the home owner will never again receive a gas or electric bill for heating water. [Regarding being able to choose a water heating method, most homeowners don't get a choice anyway--the home builders do.]
- 2) EV-ready infrastructure: When the infrastructure for an EV charger is installed in new constructions, the cost savings is considerable. For example, the infrastructure for a Level 2 charger could cost \$2500 or less at the time of construction (cf. \$10,000 if retrofitted). Additionally, having EV-ready parking stalls is already becoming a huge selling point for multi-dwelling units (condos and apartments).
- 3) Electric vehicle ownership/leasing: Purchase costs continue to drop; driving range continues to increase (over 150 miles per charge in most cars; many models average 250 miles per charge as of 2020); EVs require no gas, no oil, no transmission fluid, no water; maintenance costs are substantially lower than for fossil fuel cars (our own EV, a 2011 Nissan Leaf, has, in 8 years and 73,000 miles driven, so far needed: yearly battery and multipoint checks; brake flush and brake lube; a second set of tires and tire rotations; occasional windshield wiper replacements; replacement of one auxiliary battery (not under warranty) and one replacement main battery after four years (free under warranty). That's it!

These benefits do not include the environmental benefits (reduced global warming; less air, water and ground pollution; fewer health problems due to less pollution) as we replace gas-powered cars with EVs worldwide.

Retraining: Obviously, people employed in the fossil fuel industries (coal, oil, gas) will be negatively affected by the elimination of fossil fuels and will need retraining in clean energy jobs. Government as well as private companies will need to play large roles in this transition (there is--was, pre-COVID-19?-- a State bill, HB1934, in the legislature this session supporting such partnerships). This is not socialism, this is people helping people and people helping the planet. [Think of the U.S. government's role in WWII where women were quickly trained to make weapons of war.] All levels of government and businesses—including gas and fossil fuel companies in Hawaii--should play active roles in this transition. They, along with the State Legislature and City Council, must acknowledge that coal, oil and gas-based industries are harming the planet, that the shift to clean energy sources must be made, and that providing appropriate assistance to workers as needed is essential.

Think Big: Some amendments to Bill 25 are required due to our heightened climate emergency:

- Require that 100% (not 25%) of new multi-dwelling home and commercial parking stalls be made EV-ready. Vancouver, Canada, now requires 100% of stalls be EV-ready.
- Require Level 2 (not Level 1) chargers be installed (municipalities adopting similar laws now mandate Level 2 chargers due to their efficiency). Level 1 is of no real use to later model EVs (charge time is way too long).
- State clearly in Hawaii's Energy Code that fossil fuel energy sources are no longer an option; if choices are to be made, only clean, renewable energy options are acceptable

We can all sense that Bill 25 is the right thing to do. Spend the money now for big payoffs in the future. Help Hawaii lead in the race to save our planet and our people. The next generation is counting on you. Thank you.

Jan Pappas – Aiea, Hawaii



SIERRA CLUB

O'AHU GROUP

HONOLULU CITY COUNCIL
Testimony in SUPPORT of Bill 25 (2019) FD1
RELATING TO THE ADOPTION OF THE STATE ENERGY CONSERVATION CODE
Wednesday, May 20, 2020 11:00am

Aloha Chair Anderson and members of the Honolulu City Council,

On behalf of the Sierra Club O'ahu Group and our 8,000 members and supporters, we are in support of Bill 25 (2019) FD1, it is an investment in Honolulu's future economic resilience.

Prior to the pandemic, 49% of residents were already struggling, often two paychecks away from losing their home.¹ According to Aloha United Way, this population represents hard working people- like the blue collar essential workers- "who cannot afford basic necessities to remain stable and self sufficient." The mass layoffs from COVID-19 has only deepened this problem. The state unemployment rate is now highest in the nation at 37%. Many small businesses and workers are left with an uncertain future and may never return back to the same job or income. It is critical to pass measures that relieve and reduce economic hardships for residents now and in the long run.

Reducing Energy Burden

Energy burden is the percentage of household income spent on home energy bills. A study by the American Council for an Energy-Efficient Economy (ACEEE) and Energy Efficiency For All (EEFA) concluded that "low-income multifamily, and renter households all spend a greater proportion of their income on utilities than the average family."² As of April 2019 O'ahu has the highest urban residential electricity prices in the nation at 28.22 Cents/kWh, compared to a 12.87 cents/kWh national average. This economic burden has been exacerbated by people staying at home driving up consumption but not necessarily working from home.

The U.S. Department of Energy estimates that the typical household can save 25% on utility bills with energy efficiency measures, which amounts to over \$2,200 annually.³ With the

¹ <https://www.auw.org/sites/default/files/pictures/ALICEnationalreleaseFINAL.pdf>

² <https://www.aceee.org/research-report/u1602>

³ <https://www.energy.sage.com/energy-efficiency/why-conserve-energy/cost-of-ee/>

passage of Bill 25, our homes and businesses will be significantly more energy efficient, saving all of us money while reducing greenhouse gas emissions to combat climate change. As recent polls have shown, O'ahu voters want climate resilient policy and are adopting new behaviors.⁴

EV Adoption, Access, and Future Affordability

According to a recent Staradvertiser article, Hawaii is passing significant milestones for EV adoption. "As of January, there were 11,081 passenger EVs in Hawaii, the state Department of Business, Economic Development and Tourism said in its monthly energy trend report. That was an increase of 2,650 vehicles, or a 31.4% jump from the same month last year, and 1,647 more vehicles, or a 17.5% jump from December 2019."⁵ With this growing trend it is even more important to invest in Level 2 charging infrastructure.

We appreciate that Bill 25 FD1 will also ensure that many of our newly-constructed buildings will be "future-proofed" for reducing fossil-fuel derived energy and promote inexpensive-to-operate electric vehicles (EVs). Bill 25 would further require a baseline of 25% of all newly-constructed parking facilities be Level 2 ready, ensuring that new parking stalls have wiring installed during the time of construction, and includes the choice to opt-into a "points system." We recognize the value of making compliance more flexible and less expensive for builders and developers.

It is crucial for the City to set this course now and spare property owners prohibitively expensive retrofits for PV installation and EV charging. Equally important, is making these cost-saving options available to affordable housing below 100% ami so future renters and low-income households. We hope that to be included in the version of Bill 25 FD1 that passes.

An Equitable Economic Future

The pandemic has shown the impact a natural disaster has on our islands and put a spotlight on long standing inequities. Far too many times, people have to choose between paying their rent, utility bills, feeding their families or purchasing needed medications. Now they may not be able to pay anything, workers should not have to bear the biggest burden. In addition, we know that as the state achieves its 100% carbon neutrality goals, oil imports will diminish and the price of products derived from oil, like the gas company's synthetic natural gas, will steadily and significantly increase. For the sake of the gas company's employees and customers, it is crucial that the City and County of Honolulu help the gas company transition its source of fuel to something not derived from fossil fuels. Adopting Bill 25 FD1 is one key benchmark in that transition plan.

⁴ <https://www.civilbeat.org/2019/11/poll-oahu-voters-want-action-on-climate-change/>

⁵ <https://www.staradvertiser.com/2020/02/21/breaking-news/electric-vehicles-top-11k-in-hawaii/>

At this critical time of economic distress experienced by communities and government alike, we need bold policy that meets the challenges we face. Increasing energy efficiency, expanding electric vehicle readiness, and making new buildings PV-ready at scale across our island are critical to relieving economic burdens in the high cost of living for our island residents as well as heading off the most dire impacts of climate change. Bill 25 FD1 is just the kind of future oriented policy that prioritizes the health and wellbeing of the environment and workers of O'ahu.

Mahalo for the opportunity to testify in **support of Bill 25 FD1.**

Sincerely,

Lauren Ballesteros-Watanabe

Program Manager



SIERRA CLUB
O'AHU GROUP

sierracluboahu.org

From: CLK Council Info
Sent: Tuesday, May 19, 2020 7:25 PM
Subject: Council/Public Hearing Speaker Registration/Testimony

Speaker Registration/Testimony

Name Caroline Kunitake
Phone (808) 782 2150
Email caroline.m.kunitake@gmail.com
Meeting Date 05-20-2020
Council/PH Committee Council
Agenda Item Bill 25 (2019), CD2, Proposed FD1
Your position on the matter Comment
Representing Self
Organization
Do you wish to speak at the hearing? No

Aloha,
I am writing to offer comments on Bill 25.

Written
Testimony While opponents of the bill have argued it will make construction prohibitively expensive, the Natural Resources Defense Council estimates that developers will actually only spend from \$750 to \$3,200 more to include energy efficiency. That's less than half a percent of a new home price — and with 50% monthly energy savings on bills, it doesn't take long for homeowners and renters to recoup all that and more (<https://www.staradvertiser.com/2020/02/17/editorial/island-voices/column-bill-25-provisions-would-be-affordable-for-builders-and-buyers/>).

I hope that the City Council will consider stronger measures in the future to ensure that developers are held to a higher PV/EV building standards. A sustainable future needs an economy that is based on renewable energy technologies.

Respectfully yours,
Caroline Kunitake

Testimony
Attachment



May 20, 2020

The Honorable Ikaika Anderson, Chair
The Honorable Ann Kobayashi, Vice Chair
Members of the City Council,
City and County of Honolulu
Honolulu, Hawaii 96813-3077

RE: Bill 25 (2019) CD2- Relating to the Adoption of the State Energy Conservation Code

Aloha Chair Anderson, Vice-Chair Kobayashi and Members of the Council,

Thank you for the opportunity to submit testimony on behalf of Hawaii Gas in support of the proposed **Bill 25 FD1 draft submitted by Council Chair Emeritus Menor**. For water heating, the proposed amendment in the proposed FD1 (Menor) brings the City and County of Honolulu into alignment with the state solar water heater mandate to allow variances under certain, specific circumstances.

Hawaii Gas offers additional comments to address continuing concerns regarding the increased cost to housing from the EV and affordable housing provisions.

Our company is committed to doing our part to reduce the effects of climate change on our state and the planet, and we are making great strides. We already produce clean, renewable, affordable and reliable energy, including solar. Hawaii Gas currently generates Renewable Natural Gas (RNG) at the Honouliuli Wastewater Treatment Plant, as well as hydrogen at our Synthetic Natural Gas (SNG) facility in Campbell Industrial Park. We are turning your waste into a renewable gas resource, which is being used to power the very efficient, affordable, on-demand gas water heaters. It is also important to note Hawaii Gas has the LOWEST carbon footprint of any energy utility in the state.

The cost of housing and cost of living in Hawaii is already astronomical. Our residents are being pushed out of homeownership and pushed out of Hawaii. With the Covid-19 pandemic, we need to have measures that do not make this burden even greater. This Council has taken strong measures to address these issues, but the bill as proposed still mandates costly EV charging/infrastructure requirements and insufficient exemptions for affordable housing. There must be a better way to balance both sides of the issue and incorporate the realities of the economic disaster we are experiencing.

Mahalo for the opportunity to testify.

From: CLK Council Info
Sent: Tuesday, May 19, 2020 8:31 PM
Subject: Council/Public Hearing Speaker Registration/Testimony

Speaker Registration/Testimony

Name Lucy Fagan
Phone 8084621285
Email lucy.fagan@gmail.com
Meeting Date 05-20-2020
Council/PH Committee Council
Agenda Item Bill 25
Your position on the matter Support
Representing Organization Self
Do you wish to speak at the hearing? No

Aloha,

Written Testimony

My name is Lucy and I am Sophomore at Kalani High School. I would like to voice my support for Bill 25. I believe we must take bold action to create the world we are going to need to survive the climate crisis. Updating building codes and taking steps toward a cleaner future not only can help save residents money in the long run, as well as the state who ultimately will have to pour out millions to fight the climate crisis, but will make our island healthier. We can no longer just look at how our actions impact our current state but must also consider the future. Thank you.

Testimony Attachment
Accept Terms and Agreement 1

IP: 192.168.200.67



Hawaii Solar Energy Association

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**TESTIMONY OF THE HAWAII SOLAR ENERGY ASSOCIATION
IN REGARD TO BILL 25, RELATING TO THE ADOPTION OF THE STATE
ENERGY CONSERVATION CODE
BEFORE THE
HONOLULU CITY COUNCIL
ON
WEDNESDAY, MAY 20th, 2020**

Chair Anderson. Vice-Chair Kobayashi, and members of the Honolulu City Council, my name is Will Giese, and I am the Executive Director of the Hawaii Solar Energy Association, Inc. (HSEA).

The HSEA was founded in 1977 to further solar energy and related arts, sciences and technologies with concern for the ecologic, social and economic fabric of the Hawaiian Islands. Our membership includes the vast majority of locally owned and operated solar installers, contractors, distributors, manufacturers, and inspectors across all islands.

HSEA SUPPORTS BILL 25. This ordinance pertains to regulating the design and construction of residential and commercial buildings for the effective use of energy through the adoption of the State Energy Conservation Code (2017), subject to the local amendments within.

Bill 25 seeks to adopt the solar hot water variance into city ordinance, as well as include provisions that address a variety of energy efficient building design standards, and adopt provisions related to the use of electric vehicle charging stations in single and multi-family residences.

As a general matter, the HSEA would like to acknowledge the exceptional efforts made by the staff of the City's Office of Climate Change, Sustainability, and resiliency to engage HSEA staff and other stakeholders on this bill, as well as several City Council members who have shown respect and deference to all stakeholders involved in this bill. This is a complex, wide ranging, and essential energy code update that will help the City and County of Honolulu and its residents save money and lower their energy needs and reliance on fossil fuels.

COMMENTS RE: SOLAR HOT WATER

On the solar water heating portion of this measure, both the legislature and the state's environmental court were clear in their understanding that renewable energy devices used to heat water are a boon for homeowners. Hawaii is a unique state, with a unique climate that makes it one of the most conducive states to technology like solar thermal heating. That is why Hawaii is the leading market for solar water heating sales in the entire United States.



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Ten years ago, the state legislature enacted Act 204 and subsequently Act 155 requiring solar water heaters to be installed on all new single family homes. Act 204 of the 2008 regular legislative session¹ first established §196-6.5 as a means to encourage the adoption of inexpensive and energy efficient water heaters in new single-family home construction. Subsequently, in 2009 the legislature passed Act 155 which, specifically in Part VII, sought to clarify the administration of the Solar Hot Water Variance Law. Act 155 asserted that variances would be “rarely, if ever, exercised or granted because the burden of proof will lie with the applicant to demonstrate that a solar water heater system, regardless of location or circumstance, is not cost effective in the context of a thirty-year mortgage.”

This measure allows the City a means to enforce this state requirement by enshrining a similar requirement into ordinance. It **could go a step further** by requiring that this same standard apply to multi-family housing, which helps reduce the cost of housing for low and middle income communities. In the confines of a 20-30 year mortgage, the cost effectiveness and utility of a solar water heater has been proven time and again to be overwhelming worth it.

The HSEA also offers a point-by-point response to some of the questions regarding the impacts of this measure, in an effort to set the record straight:

- It is absolutely correct that a “one size” water heating solution does not sufficiently address the broad Hawaii water heating market. Bill 25 gives options to consumers for a wide variety of water heating technologies and allows the homeowner the agency to choose what is most cost-effective for their situation. In fact, section R403.5.5 specifically includes an exception section allowing other water heating technologies to be used when installation of solar hot water is impractical or cost prohibitive, consistent with state law.
- The City & County of Honolulu is not at odds with the state law and variance process, but rather Bill 25 actually serves to alleviate the county of potential liability by granting the Department of Planning and Permitting enforcement abilities over state mandated water heating variances. This power is currently absent from state law.
- Rural residents who depend on clean gas still can depend on gas. Further, to suggest alternate water heating technologies are less resilient and “more vulnerable to natural disasters” is paradoxical and has no factual basis. If the intent is to suggest electrical infrastructure is more vulnerable than gas

¹ See Act 204 and Gov. Msg. No. 947 on June 26, 2008 during the twenty-fourth state legislature in the state of Hawai'i.



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infrastructure, any potential vulnerability would also impact gas heating technologies as all major manufacturers utilize electronic spark-to-pilot ignition systems in gas water heaters. No electrical grid = no gas heater ignition. Alternatively, solar water heaters with a direct-current circulation pump still provide hot water in the event of a grid outage. Additionally, unlike gas, solar water heaters also come with 80 – 120 gallon tanks, which function as a “battery” that stores hot water during power outages.

- Future home buyers will never pay an amount over \$6,000 on average more in energy cost if their option is limited to solar. Solar energy input will never be more costly than gas energy input. Further, their option is not limited to solar. To suggest otherwise is purposefully misleading and ignores the very clear exception clause described in the first bullet point. Additionally, this point presupposes that only solar water heaters are an option, and that new home buyers will be paying *retail* prices, when in fact the cost of the heater will be rolled into the total cost of their home. Finally, unlike gas technology, a consumer utilizing most renewable energy water heating tech (solar thermal, heat pump, PV) does not also have to pay a gas bill, thus they save money over the life of the system.

COMENTS RE: EV CHARGING PULLOUTS

Another part of this bill requires that electrical vehicle charging station pull outs are required in multi-family housing units. There are myriad benefits to electrifying transportation that drastically help the state lower its carbon emissions. By providing sufficient electric vehicle charging stations in multi-family housing, you allow the tenants of these housing units to realize the benefit and cost savings of an electric vehicle, while simultaneously reducing emissions from an ICE or carbon-based fuel burning vehicle by removing it from the road.

We do not currently support the language present in the CD2 draft of this bill and recommend that the Council adopt the previous draft with suggest amendments cited below. Currently, the CD2 draft relies on a point system that heavily favors level 3 charging stations, all of which are currently controlled by the electric utility. Although the HSEA supports development of Level 3 chargers along with Level 2 chargers, we believe that this point system will result in two negative outcomes:

1. **Developers will opt to install fewer EV chargers overall**, because they will receive compliance points that are 2X to 3X what a Level 2 charger will be, and there is no stop-gap to prevent customers from parking their car at a charger longer than it reasonably needed.
2. **The current compliance point discrepancy by charging level stifles market competition.** There are simply not enough suppliers or developers of Level 3 chargers to stimulate market competition that would drive down charging rates.



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The HSEA is also concerned that there are no price controls on HECO owned vehicle chargers, or no amendments that require a portion of all of the energy used to power these chargers be from renewable sources.

Relative to other jurisdictions that have considered adopting similar ordinances or statutes, we suggest that the City consider amending Section (17), Subsection C 406.8 as follows:

C406.8 Electric vehicle infrastructure. New residential multi-unit buildings that have eight or more parking stalls, and new buildings that have twelve or more parking stalls, shall be electric vehicle charger ready for at least ~~25~~ 100% percent of the parking stalls. As used in this section, "electric vehicle charger ready" means that sufficient wire, conduit, electrical panel service capacity, overcurrent protection devices and suitable termination points are provided to connect to a charging station capable of providing simultaneously an AC Level ~~± 2~~ charge per required parking stall for residential and multi-unit buildings. For commercial buildings, at least ~~25~~ 100% percent of the parking stalls are required to be AC Level 2 charger ready. Charge method electrical ratings are provided below:

CHARGE METHODS ELECTRICAL RATING

Charge Method	Normal Supply Voltage (Volts)	Maximum Current (Amps – Continuous)	Supply power
AC Level 1	120V AC, 1-phase 120V AC, 1-phase	12A 16A	120VAC/20A (12-16A continuous)
AC Level 2	208 to 240V AC, 1-phase	≤ 80A	208/240VAC/20-100A (16-80A continuous)

Requiring 100% Level 2 charging addresses several issues. By requiring 100% compliance, the City ensures that renters and LMI homeowners, who benefit the most from EV cost savings, will be guaranteed a charger whether or not they own the unit or domicile.

The cost to install new infrastructure over retrofits is significantly lower, as demonstrated in Hawaii's Solar Water Heating variance as well as California's New Solar Homes mandate, which lower the cost of installing each unit by 30-75%. Additionally, these costs will be rolled into the purchase prices of the home, rather than an additional cost



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added later. The argument that mandates like these make housing less affordable is actually untrue. Rather, the cost savings the customer realizes by both avoiding retrofit pricing and by having an EV ready parking stall day 1 outweighs whatever nominal added cost to the purchase price of the unit.

Level 2 charging, which charges EV at a much faster pace (2-4X faster than Level 1) eliminates so-called "range anxiety" among EV adopters, encourages greater adoption levels, and creates a potential business opportunity for commercial building owners.

COMMENTS RE: SOLAR CONDUIT AND ELECTRICAL PANEL READINESS

We support the language relative to what are essentially "solar ready homes".

The HSEA SUPPORTS BILL 25, and we ask the council to adopt this ordinance subject to our comments above.

Thank you for the opportunity to testify.



**TESTIMONY OF TINA YAMAKI
PRESIDENT
RETAIL MERCHANTS OF HAWAII
February 27, 2020
Re: BILL 25 (2019) RELATING TO ENERGY CODE**

Good morning Chairperson Anderson and members of the Honolulu City Council. I am Tina Yamaki, President of the Retail Merchants of Hawaii and I appreciate this opportunity to testify.

The Retail Merchants of Hawaii (RMH) is a statewide not-for-profit trade organization is committed to support the retail industry and business in general in Hawaii. The retail industry is one of the largest employers in the state, employing 25% of the labor force.

The Retail Merchants of Hawaii currently OPPOSES both Bill 25 (2019) CD2 and the Proposed FD1 Relating to the Energy Code as presently written.

Retailers continue to be concerned about our aina and have supported many initiatives that preserve and protect our environment. However, The Retail Merchants of Hawaii does not support Bill 25 (2019) CD1 or CD2 as presently written. These bills mandate that all new commercial buildings that have twelve or more parking stalls must have at least 25 percent of the parking stalls be electric vehicle charger ready.

EVs still makes up only 1% of the cars on Hawaii's roadways with our understanding that the majority of the EV ownership is in the urban areas. Last year alone, luxury vehicle Tesla made up over 70% of the new EVs sold in Hawaii. Automobile manufactures like Jaguar, Audi, BMW and Mercedes Benz have joined Tesla in launching high profile electric cars this year as well.

While we understand the City and County wants to reach their energy goal, we must also look at the bigger picture in an effort to protect the consumer and the price of living in Hawaii. Mandating the installation of EV ready parking stalls will increase the overall cost of living in Hawaii even higher than it is now. Hawaii is already well known to have a high cost of living. PayScale states that in Hawaii the national average is 88% higher than the rest of the nation. Hawaii's housing is 202% higher, utilities 89% higher and groceries 62% higher. We would also like to point out that the Office of Climate Change, Sustainability and Resiliency cost estimates of EV parking is based on what it would cost in California and not what it would truly cost in Hawaii, which would be a lot higher.

Who will ultimately pay for the EV charger infrastructure at retail locations and shopping malls? It will be everyone regardless if they drive an EV or not as the cost will be passed on to our kupuna, keiki, family friends and neighbors - the consumer - when they purchase food, clothing, school supplies, healthcare products, electronics and more.

While we are appreciative of the lower minimum of 20% EV ready charging stations for retailers, this measure also decreases the minimum number of stalls from the States 100 parking stalls to 12 stalls. The proposals do not consider the ADA parking requirements needed for car and van accessibility. At least one of the stalls has to be ADA compliant as well as be van accessible. The ADA stall(s) could not be included as an EV charger stalls as not all ADA vehicles are electric. By law only EV can park in EV designated charging stalls and only ADA permitted vehicles can park in ADA stalls. We must also note that ADA van accessible stalls equate to TWO parking stalls.

Shopping habits have changed with people limiting their time to shop. We must also recognize that not all retailers are alike. For small standalone stores and convenience stores, customers are in and out in a few minutes. With limited parking you would not want someone parked in a stall for a few hours to charge their car. You would want a constant flow.

While we recognize that it is cheaper to install the EV ready chargers in the initial building stage, the fact is still the number of chargers mandated are high and that it would increase the cost of the project and will lead to higher lease rents. For those in the malls who want to reconfigure or repave their parking lots or expand, this mandate would come into effect and would be passed on to the mall tenants in the form of higher rent or a Common Area Maintenance Charge (CAM), who intern would pass the cost on to the customer.

We are already seeing a mass exodus of our local residents moving to the mainland where it is cheaper to live. Many of our retailers statewide are already operating on a thin margin, especially mom and pop stores who cannot afford to absorb the increase. Businesses are already closing their doors due to COVID19 as they can no longer afford to keep them open due to the unpaid debt from closing their doors, the high cost of lease rent and customers find the items cheaper online. This year alone, we have already seen a few long-time restaurants and stores closing for good citing the effects of COVID-19, high cost of their lease rent and the cost of doing business in Hawaii.

Retailers and shopping malls already provide these "reserved parking spaces" and many with a FREE charging station for electric vehicles. While retailers could use EV stations that charge the customer while hooked up, many do not as the cost to purchase the equipment is very expensive and the cost would be passed on eventually to the customers. Retailers biggest competitor is online sites. Customers are very price sensitive when shopping and have no problem by passing stores and shopping online. Retailers use the FREE EV Stations to keep costs down and maintain affordability for their products and services.

Furthermore, Shopping malls and retailers outside of the urban areas find that their EV charging stations are not being used very often. We believe that the market and customers should continue be the influencers in business trends and operations and not government mandates. New shopping centers, especially in the urban core areas are already including an increase in EV chargers and EV charger ready stalls when building and expanding.

Retailers and Shopping Centers are not in the business of refueling/recharging. Many of our members have found EV drivers in the surrounding neighborhood and condominiums come to plug into the retailers charging stations to avoid increasing their electric bill at home or because their complex does not have EV charging capabilities. The EV stalls come at a cost to businesses who must provide additional security, signage, towing and more when people try to charge their cars after the malls are closed. Furthermore, these residents leave their cars AND are NOT shopping in the stores while their batteries are being recharged during mall hours. Thus, these residents are taking away the EV stall from customers coming to shop and who may turn away if there is no EV parking.

We are concerned that government will begin to mandate "reserved parking stalls" for all of the various types alternative gas powered vehicles and that businesses with large parking lots would just become a reserved parking charging station for the public and not able to offer convenient parking for the customers that actually shop in the stores. New technology is constantly being developed regarding the actual charging station. However, organizations such as the Society of Automotive Engineers (SEA) and companies such as Qualcomm have been helping develop new wireless charging standards which may become integrated into all future EVs. New battery technologies are being investigated by major players, promising greater densities and longer ranges. We would also like to point out that with the advancement of technology, the newer model Electric Vehicles can travel further distances. There are also other cars being developed that uses alternatives to traditional gas-powered car like that of hydrogen fuel cell.

We should be encouraging a new cottage industry to build quick charging stand alone stations like that of a traditional gas station. We are already seeing and should be encouraging Hawaiian Electric Company to install more fast charging stand-alone stations. As well as offering an incentive for others to follow.

Government mandates like this does drive up the cost of doing business that in turn drives up the cost of living in Hawaii. We urge you not to impose another government mandate on retailers that would drive up the cost of living in Hawaii and ask that you exempt retail from this measure.

Again mahalo for this opportunity to testify.



**Testimony to the City & County of Honolulu City Council
Special Meeting
Wednesday, May 20, 2020 at 11:00 A.M.
City Council Chamber, Honolulu Hale**

**RE: BILL 25 (2019) CD2, RELATING TO ADOPTION OF THE STATE ENERGY
CONSERVATION CODE**

Chair Anderson, Vice Chair Kobayashi, and Members of the Council:

The Chamber of Commerce Hawaii ("The Chamber") would like to provide the following comments regarding Council Bill 25 CD2, which would regulate the design and construction of residential and commercial buildings for the effective use of energy through the adoption of the State Energy Conservation Code.

The Chamber is Hawaii's leading statewide business advocacy organization, representing about 2,000+ businesses. Approximately 80% of our members are small businesses with less than 20 employees. As the "Voice of Business" in Hawaii, the organization works on behalf of members and the entire business community to improve the state's economic climate and to foster positive action on issues of common concern.

Hawaii continues to play a leading role in protecting our environment and increasing energy efficiency, and the Chamber recognizes the need to find solutions to address climate change. We understand the intent of this bill; however, we remain concerned about the impact that some of the mandates proposed in Bill 25 could have on affordable housing markets across Oahu.

Additionally, the ongoing Coronavirus (COVID-19) pandemic continues to cripple our state's economy. More than 200,000 workers have lost their jobs and our state has gone from having one of the lowest unemployment rates in the nation, to having the highest in just a matter of weeks. Hawaii's families are struggling to make it financially through the crisis. Given the current ongoing crisis, we feel that now is not the time to enact measures that would hamper recovery and job creation.

Thank you for the opportunity to testify on Council Bill 25 CD2.

Sherry Menor-McNamara
8083802617
dkouchi@cochawaii.org

From: CLK Council Info
Sent: Tuesday, May 19, 2020 11:14 PM
Subject: Council/Public Hearing Speaker Registration/Testimony

Speaker Registration/Testimony

Name Suzanne Egan
Phone 808-321-3072
Email segan808@gmail.com
Meeting Date 05-20-2020
Council/PH Committee Council
Agenda Item Bill 25
Your position on the matter Comment
Representing Self
Organization
Do you wish to speak at the hearing? No

Written Testimony Aloha, It has been a long road, but we are finally here. I would have wished to support Bill 25, however, in its current state, I can only comment. Menor's changes have weakened it significantly from earlier drafts that were much better, but I do recognize that it Bill 25 is a major step forward from the current City energy code that will fight the Climate Crisis and save many people a good deal of money.

Testimony Attachment
Accept Terms and Agreement 1

IP: 192.168.200.67



May 20, 2020

Honolulu City Council
530 South King Street, Room 202
Honolulu, HI 96813-3077

Re: Support for City and County of Honolulu Bill 25 (2019)

Dear Honorable City Council,

The Greenlink Group (Greenlink) would like to offer this letter in support of the passage of Bill 25 (2019) on the Adoption of the State Energy Conservation Code, with particular regard to the amendment of Subsection R403.5.5 of the IECC on solar water heating.

Greenlink is a partner to the City and County of Honolulu through Bloomberg Philanthropies' American Cities Climate Challenge (ACCC). We are a clean energy research consulting firm that specializes in energy efficiency, renewable energy, and urban sustainability. Our mission is to use our award-winning analytical technologies to help create smarter, cleaner, and more equitable communities.

As a part of ACCC, Greenlink was engaged to conduct analysis on the proposed R403.5.5 amendment, in which residential single-family buildings shall use solar, wind, or another renewable energy source. Our research has found that by 2050 in Honolulu, solar water heaters not only produced the lowest amount of total carbon emissions in comparison to electric resistance, instantaneous natural gas, and heat pump water heaters, but also were the least-cost options on a total and operating-cost basis for residents. Furthermore, when the social costs of water heating (defined as damages to public health and welfare caused by CO₂, VOC, NH₃, NO_X, and SO₂ pollutant emissions) were factored into the policy analysis, solar water heaters remained the least-cost option in comparison to electric resistance and instantaneous natural gas water heaters.

Our analysis suggests that solar hot water heaters are the lowest economic and social cost option: adopting the amendment of Subsection R403.5.5 would result in at least \$1 billion in environmental and costs savings for Oahu's economy over the next 30 years. Therefore, the amendment appears to be a financially and environmentally responsible option for Honolulu as it moves towards its goal of achieving 100% renewable energy on O'ahu by 2045. If you have any questions about Greenlink's analysis or support, please do not hesitate to reach out to us at info@thegreenlinkgroup.com.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Cox".

Matt Cox
CEO, Founder
The Greenlink Group



183 Pinana St., Kailua, HI 96734 • 808-262-1285 • info@350Hawaii.org

To: The Honolulu City Council
From: Brodie Lockard, Founder, 350Hawaii.org
Date: Wednesday, May 20, 2020

Comments on Bill 25 (2019), CD2, FD1

Dear Chair Anderson, and Councilmembers,

After seven proposed committee drafts and more than a year of negotiations between the Council; the city's Office of Climate Change, Sustainability and Resiliency; and over 150 stakeholders, the final bill from the Zoning, Planning and Housing Committee incorporated Councilmember Brandon Elefante's CD2 amendment, and several last-minute changes by ZPH Chair Ron Menor.

Unfortunately, each of the Chair's changes further weakened the bill, adding to the eight months of continual concessions granted to the building industry.

350Hawaii.org does not support or oppose, because the bill is better than nothing, but it has enormous flaws.

FD1 makes many concessions to building lobbyists, changing the bill in five major ways. It makes two very minor concessions to the overwhelming majority of stakeholders who are concerned about the Climate Crisis instead of short-term profit.

Bill 25 began over a year ago as a compromise among stakeholders. Each time it has come up in a hearing, its proposed amendments have favored the building groups more and more and more.

- * EV-ready requirements for retail establishments were lowered from 25% of parking stalls to 20%.

- * EV-ready requirements for housing built for families earning over 100% and up to 140% Area Median Income (AMI) were also lowered from 25% of parking stalls to 20%.

- * New housing built for families earning 100% AMI or less have been completely exempted from EV-ready parking stalls.

- * 32-amp wiring in the EV-ready specifications for townhomes with enclosed attached garages has changed to 16-amp, doubling charging times for many EV owners.

- * A point system for EV-readiness was added, allowing fewer charging stations.

In contrast, environmental groups have received two small concessions:

- * New roofs must be "solar-ready," meaning adding a few yards of conduit and wiring.

- * The requirement for Level 1 EV charging in residential and multi-unit buildings was changed to Level 2. This necessity was so obvious to all stakeholders that it barely counts as a concession.

The Natural Resources Defense Council estimates that Bill 25's energy efficiency requirements will cost developers only an additional \$750 to \$3,200, less than 0.5% of a new home price. With \$50 monthly savings on energy bills, homeowners and renters will recoup all of that quickly and save a great deal more in the following years [2].

A November poll showed that 82% of Oahu voters consider climate change to be a "very serious" problem or "somewhat serious," and are willing to act to combat it, both individually and collectively. According to the poll, of those surveyed [1].

81% favor updating building codes to require new homes to be more energy efficient, use solar water heaters and be able to charge electric vehicles.. That figure stayed high at 74% when asked if they still supported doing so even if it meant added upfront costs to home builders while lowering utility bills to the homeowner in the long run.

Half of those polled said they would be likely to change their car to a hybrid or electric vehicle whereas two-thirds said they'd be likely to install solar hot water or a photovoltaic system on their roof.

The pollster said Oahu is not like some other places on the mainland that say climate change is India's fault or too big a problem to solve. She said the poll clearly showed that Oahu residents are not expecting climate change effects--they are experiencing them right now.

While opponents of the bill have argued it will make construction prohibitively expensive, the Natural Resources Defense Council estimates that developers will actually only spend from \$750 to \$3,200 more to include energy efficiency. That's less than half a percent of a new home price — and with 50% monthly energy savings on bills, it doesn't take long for homeowners and renters to recoup all that and more. [2].

Every month brings a new record un-natural catastrophe: hurricanes, heat waves, rain bombs, floods, wildfires, droughts. On February 16, a "bomb cyclone" caused 100-foot waves. In Britain. Are these horrors less important than the profit of a few construction companies? Someday soon, Honolulu will be slammed by a devastating hurricane, and the importance of action will be undeniable. But it will be too late to have helped avoid it.

The Council let slip many different ways this bill could have fought the Climate Crisis. Please, write some serious legislation that takes real, concrete action and makes a major difference in avoiding climate breakdown.

Government officials all over the world, at every level, think, "Well, **we** can't fix climate change by ourselves." And sure enough, every government official all over the world, at every level, is not fixing climate change. But someone needs to pitch in. **Hawaii** needs to pitch in.

Brodie Lockard
Founder, 350Hawaii.org

[1] <https://www.civilbeat.org/2019/11/poll-oahu-voters-want-action-on-climate-change/>

[2] <https://www.staradvertiser.com/2020/02/17/editorial/island-voices/column-bill-25-provisions-would-be-affordable-for-builders-and-buyers/>

From: CLK Council Info
Sent: Tuesday, May 19, 2020 4:40 PM
Subject: Economic Assistance and Revitalization Registration/Testimony

Speaker Registration/Testimony

Name	Sara DiGrazia
Phone	8082953525
Email	birthandearth@hotmail.com
Meeting Date	05-20-2020
Council/PH Committee	EconomicAssistance
Agenda Item	Bill 25 (2019), CD2, Proposed FD1
Your position on the matter	Support
Representing	Self
Organization	
Do you wish to speak at the hearing?	No
Written Testimony	Though a small step, this Bill is a step toward sustainability and those are the only steps we can take now.
Testimony Attachment	
Accept Terms and Agreement	1

IP: 192.168.200.67

**RENEW
REBUILD**



HAWAII

Michael Markrich

President
RENEW REBUILD HAWAII

May 19, 2020,

Aloha Members of the Honolulu City Council,

RENEW REBUILD HAWAII supports the efforts being made by Josh Stanbro and the City Resiliency Office, in regard to Bill 25, regarding the updating of the City Energy Code. Updating our code is an important step in meeting the demands of climate change though energy efficiency, that have been placed upon us during this difficult time.

However, the energy codes alone will not help us address the energy needs of the City and County of Honolulu. Hawaii electricity bills are the highest in the nation. During this health and financial crisis, leaders must commit to a recovery that benefits all people. We should focus on pathways that offer the resilience needed to recover and thrive.

Because of the manner in which solar energy subsidies were made, people in our poorest neighborhoods pay more than those in wealthy districts. Each year nearly 20,000 people in Honolulu are affected¹ when their electricity is cut off for non-payment of bills. We must change the rules of the game to remove the structural barriers that cause poverty and despair.

We must invest in infrastructure to achieve prosperity for historically underserved and marginalized communities

Thank you for the opportunity to share our consideration in updating the energy code.

Mahalo

Michael Markrich

¹ Based on an average of 4,600 customers by year x a multiplier effect of 4 to
To cover men, women and children and the impact on others.

Speaker Registration/Testimony

Name Susan Gorman-Chang

Phone 818-723-0767

Email sggc@dslextreme.com

Meeting Date 05-20-2020

Council/PH
Committee Zoning

Agenda Item Bill 25

Your position
on the matter Support

Representing Self

Organization

Do you wish
to speak at the No
hearing?

Mahalo for hearing Bill 25 today. Although I wish some of the original provisions made it to the final version of Bill 25, it is the bill we have today and I support it being passed. The PV ready stipulation for new homes and EV Level 2 ready parking stalls are important if we are to encourage the move towards solar power and electric vehicles. Upgrading Oahu's energy code translates into savings for individuals who pay household energy bills. It is also a sound way to save energy for us as a community which cuts down on our carbon pollution, thus decreasing our impact on global climate change. Just as Bill 25 helps families economically as well as helping the environment, the Carbon Fee and Dividend Act, HR 763 on the federal level, puts a fee on carbon and returns that fee to individuals in the form of a dividend and would further encourage all of us to move in the direction of renewable energy. At the Hawaii state level, SB 3150 does something similar by putting a price on carbon. We need energy efficient building codes and economic incentives to move toward the 100% renewable energy future Hawaii has committed to by 2045.

Written
Testimony

Testimony
Attachment

Accept Terms
and 1
Agreement

IP: 192.168.200.67

Speaker Registration/Testimony

Name Greg Puppione
 Phone 808-945-3455
 Email gpuppione@gmail.com
 Meeting Date 05-20-2020
 Council/PH Committee Zoning
 Agenda Item Bill (2019)
 Your position on the matter Support
 Representing Self
 Organization
 Do you wish to speak at the hearing? No

Written Testimony Bill 25 ensures a better future for Honolulu and its residents—current and future—by making new homes and other buildings cleaner, healthier, and more affordable and easier to operate. Please support this important measure.

Testimony Attachment

Accept Terms and Agreement 1

IP: 192.168.200.67

Speaker Registration/Testimony

Name Rhema Wong
Phone 8084997282
Email rhemapeacewong@gmail.com
Meeting Date 05-20-2020
Council/PH Committee Zoning
Agenda Item Bill 25 FD1 Elefante
Your position on the matter Support
Representing Self
Organization

Do you wish to speak at the hearing? No

My name is Rhema Wong and I am a 19-year old college student living in Hawaii Kai. I stand in strong support of Bill 25 FD1 Elefante.

Written Testimony

Thank you for your time,
Rhema Wong

Testimony Attachment

Accept Terms and Agreement 1

IP: 192.168.200.67

Speaker Registration/Testimony

Name Angela Huntemer
 Phone 8082243101
 Email ahuntemer@aol.com
 Meeting Date 05-20-2020
 Council/PH Committee Zoning
 Agenda Item Bill 25 CD2
 Your position on the matter Support
 Representing Self
 Organization
 Do you wish to speak at the hearing? No

Written Testimony Dear City Council Members, I have testified in favor of providing a modern, cost efficient, climate friendly measure numerous times. Please pass Bill 25 without any watered down amendments or delays in implementation. Thank you.

Testimony Attachment
 Accept Terms and Agreement 1

IP: 192.168.200.67



May 20, 2020

City and County of Honolulu Council
Chair, Ikaika Anderson
Wednesday, May 20, 2020, 11 a.m.

**BILL 25, CD2, FD1 – RELATING TO ADOPTION OF THE STATE ENERGY
CONSERVATION CODE – Support Councilmember Menor’s proposed revisions**

Aloha Councilmembers:

I am submitting testimony on behalf of Hawaii Habitat for Humanity, Department of Treasury certified nonprofit Community Development Financial Institution (CDFI) and Habitat’s Oahu affiliated organization, Honolulu Habitat for Humanity and Habitat for Humanity Leeward Oahu, to **OPPOSE** Bill 25, CD1.

We support Bill 25, CD2, FD1 draft submitted by Council Member Ron Menor, where construction of housing for families earning under 100% AMI will be exempt from the EV parking requirement.

While our organization deems action on energy conservation to be critical to the long-term, well-being of our island communities, and in fact, include solar water heaters, as well as some photovoltaic energy systems, where we can, on the construction of new and renovated for sale housing for low income families, we oppose legislation that we believe unfairly impacts the increase in the cost of construction.

However, our hope is to include electric vehicle parking when the families we serve are able to afford to purchase/lease electric vehicles, which currently are out of their price range. Without this exemption Bill 25 electric vehicle parking requirements would not only increase the construction costs that are then passed down to already cost-burdened families, but mandates a requirement that currently is not affordable to the families, that of owning an electric vehicle, for which a required parking spot would be built.

2051 Young St.#82
Honolulu, HI 96826
808-847-7676
www.hawaiihabitat.org

Habitat for Humanity is a nonprofit developer of affordable housing for our extremely -low, very-low and low-income households that earn up to 80% of the HUD Area Median Income (AMI). Low income families are currently unable to afford to purchase electric vehicles and will have no use for charging station parking stalls. Parking is already at a premium in multi-family developments and conserving

parking stalls that will sit empty for vehicles that are not currently being driven by the residents makes no sense.

Our Habitat organizations support Councilmember Ron Menor's version which removes the Electric Vehicle parking requirement specifically for affordable housing developments built for households at 100% AMI and below. Should these changes be made to Bill 25. We stand in strong support of this version of the legislation.

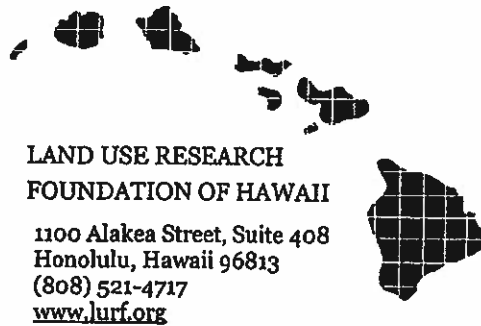
Please consider a change that will not cost-burden Hawaii families that are already struggling with housing. These households do not need more pressure on their already stretched income.

Mahalo for your time and consideration. Please contact me directly at 808.847.7676 or email me at jean@hawaiihabitat.org should you have any question or need additional information.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jean Lilley".

Jean Lilley
Executive Director



May 20, 2020

Honorable Ikaika Anderson, Chair and Presiding Officer
Honorable Ann H. Kobayashi, Vice Chair
Members of the City Council
City and County of Honolulu

Comments and Proposed Amendments relating to Bill 25 (2019), CD2 Relating to the Adoption of the State Energy Conservation Code.

Wednesday, May 20, 2020, 11:00 a.m., at City Council Chambers

The Land Use Research Foundation of Hawaii (LURF) is a private, non-profit research and trade association whose members include major Hawaii landowners, developers and energy provide comments and proposed amendments utility companies. LURF's mission is to advocate for reasonable, rational, and equitable land use planning, legislation and regulations that encourage well-planned economic growth and development, while safeguarding Hawaii's significant natural and cultural resources, and public health and safety.

LURF members are leaders in renewable energy in Hawaii - have produced and used renewable energy for over 100 years, include the first major developers to voluntarily do 100% solar water heaters (before the solar mandate law), have developed award-winning renewable energy and LEED projects, and continue o work on and implement initiatives to reach Hawaii's renewable energy goals.

LURF generally supports Bill 25 (2019), CD2, however, it adds non-health and safety requirements that will increase the costs of shelter and housing by \$4,205 to \$18,702 per dwelling unit. Thus, LURF proposes approval of Bill 25 **with the following amendments:**

- 1) **AMENDMENT: Delay full Implementation of Bill 25 for 18 months (or until Honolulu has economically recovered to economic levels in February 2020). Bill 25 provisions can be voluntary until the end of the 18-month period.**
- 2) **AMENDMENT: Adopt Table C406.8.2 ELECTRIC VEHICLE READINESS POINTS BASED COMPLIANCE VALUES (See Proposed FD1 submitted by Councilmember Menor).** This Points Table was a result of collaborative work by Stakeholders who are experts in renewable energy, electric vehicles (EV), EV-charging, homebuilding, retail shopping centers and LURF. The FD1 Table proposed by Council Chair Emeritus and ZPH Chair Menor table represents a significant improvement and incentive for EVs, because it will actually result in a higher level charging; more EV charger readiness opportunities for low income families; and more EV fast-charging stations than the Admin's original Bill 25 and the CD1.
- 3) **AMENDMENT: Allow for Exception from EV charger-ready requirements for Affordable Housing (140% AMI and below).** This exception would reduce costs for homebuyers including first responders and other working families of two persons with a total annual income between \$100.801 to 141.120 (See income levels on attached HHFDC table).

LURF's Position. LURF appreciates the revisions made to Bill 25 by the Council Chair Emeritus and Zoning Planning and Housing (ZPH) Committee Chair Menor. While LURF supports the general purpose and intent of Bill 25, however, due to the COVID-19 pandemic and resulting economic crisis, LURF proposes that the implementation of its provision be voluntary until the end of an 18-month period. LURF's position is based on the following:

1. **Bill 25 adds non-health and safety requirements that will increase the costs of shelter and housing (IECC, SECC & City proposals)**
 - For construction of a single-family dwelling unit by **\$8,800- \$18,702 INCREASE**
 - For construction of a multi-family dwelling unit by **\$4,205 - \$10,205 INCREASE**

These increased per-unit costs will cause increases in prices of much-needed rentals, affordable housing, and housing for all income levels. The past testimony of experienced housing developers confirms that the price increases caused by Bill 25 will have a detrimental impact on mortgage qualification by low-income buyers.
2. **This is not the time, during the COVID-19 pandemic, to increase the costs of homes.** Under the circumstances, LURF would respectfully recommend that the implementation of this bill should be delayed 18 months (or until Honolulu has economically recovered to economic levels in February 2020).
3. **The EV Readiness Points Based Compliance Values Table (Proposed FD1 submitted by Councilmember Menor) will result in more opportunities for EV charger-ready locations and charging stations and should be adopted.** The proposed table was based on a collaboration by an expert Stakeholder group including Hawaii's most experienced homebuilders, Hawaiian Electric, Hawaii Gas, retail shopping centers, the construction industry, and the Hawaii Auto Dealers Association. When compared to the original version of Bill 25, this table: increases the charger-ready from Level 1 to Level 2; substantially increases the alternatives to increase EV charger ready opportunities; and substantially encourages the installation of EV fast-charging stations.
4. **Bill 25 should be amended to include an exception from the EV charger ready requirements for affordable housing units available to families with family incomes between 100% AMI to 140% AMI.** This exception would reduce the cost of housing for local working families of two persons with a joint annual income between \$100,801 to 141,120. These affordable housing residents will have substantially more opportunities to charge their EVs under the EV Readiness Points Table proposed in the FD1 proposed by Council Chair Emeritus and ZPH Chair Menor. This FD1 table includes significant opportunities and incentives for EV charger-readiness at higher charging levels and the actual installation of EV fast-charging stations in public areas which will be available to families living in affordable housing units.

In the interests of supporting Hawaii's renewable energy future and the use of EVs by reasonable measures that are based on the collaboration of experts in home-building, renewable energy and EVs, and that do not unreasonably increase the costs of housing, **LURF supports the approval of Bill 25, with a deferral of implementation for 18 months and with the amendments described above,** and respectfully urges your favorable consideration.

Thank you for the opportunity to present testimony regarding this matter.

BILL 25 - Estimated Costs

Based on CD2 (Elefante) with Hand Carry Amendment (Elefante) as presented at 1/23/2020 Zoning, Planning and Housing Committee Hearing.

2/12/2020

BILL 25 - Subsection	Cost Range per SF Home	Cost Range per MF Unit	Comment
C206.8 Electric Vehicle Infrastructure		\$1,400 - \$1,500	Multi-family - Underground infrastructure. Based on engineer's estimate of 120 unit condo project. Multi-family - Upgrades to transformers and electrical infrastructure. This cost is project specific and determine by HECO during the design phase of the project. It could require no additional transformers or it could require a doubling of transformers. Transformers cost between \$30,000 - \$40,000 each. The 120 unit condo project has 9 transformers without EV requirements. Cost difference between a solar hot water system vs an instant gas water heater. Based on subcontractor bid pricing.
R403.5.5 Solar Water Heating	\$4,550 - \$7,502	\$0 - \$3,000	
R404.2 Solar Conduit and Electrical Panel Readiness		\$250 - \$500	Multi-family - building infrastructure (including required fire stopping).
		\$350 - \$500	Single Family - house infrastructure.
R404.3 Electric Vehicle Readiness		\$350 - \$500	Single Family - house infrastructure.
R402.1.3 Sampling		\$100 - \$300	Depends on # of plan/fold types and # of each type. Note: additional cost is reduced since the State Energy Code requires testing for all homes.
R403.6.2 Ceiling Fans (Exception)		\$150 - \$600	Addition/upgrade to 3-wire fan junction boxes. Note: additional cost is reduced since the State Energy Code requires the installation of ceiling fans for all homes.
BILL 25 - Total Estimated Cost Range	\$5,500 - \$9,402	\$1,900 - \$5,900	

IECC + SECC - Estimate Costs

Based on 2012 IECC + SECC Approved Amendments.

Subsection	Cost Range per SF Home	Cost Range per MF Unit	Comment
SECC - R402.3.2 Glazed Fenestration SHGC	\$200	\$175	Upgrade from SHGC 0.30 to 0.25.
IECC - R402.4 Air Leakage	\$1,000 - \$7,000	\$1,000 - \$3,000	Upgrade building thermal envelope.
IECC - R403.6 Mechanical Ventilation	\$1,400	\$850	Upgrade bathroom exhaust fans.
IECC - R404.1 Lighting Equipment	\$700	\$280	Upgrade to all LED Lighting Fixtures.
IECC - Total Estimated Cost Range	\$3,300 - \$9,300	\$2,305 - \$4,305	
IECC + SECC + BILL 25 - Total Estimate Cost Range	\$8,800 - \$18,702	\$4,205 - \$10,205	



HONOLULU COUNTY INCOME SCHEDULE BY FAMILY SIZE

2020

THE FOLLOWING TABLE PRESENTS INCOME LIMITS BY FAMILY SIZE AND BY PERCENTAGES OF THE VERY LOW INCOME LEVELS ESTABLISHED BY HUD. THESE INCOME LIMITS SERVE AS GUIDELINES TO ESTABLISH SALES/RENTAL PREFERENCES.

MEDIAN \$101,600 Adjustments for family size	LIMITS BY FAMILY SIZE							
	1 PERSON	2 PERSON	3 PERSON	4 PERSON	5 PERSON	6 PERSON	7 PERSON	8 PERSON
	0.7000	0.8000	0.9000	1.0000	1.0800	1.1600	1.2400	1.3200
10%	\$8,820	\$10,080	\$11,340	\$12,590	\$13,600	\$14,610	\$15,620	\$16,620
20%	\$17,640	\$20,160	\$22,680	\$25,180	\$27,200	\$29,220	\$31,240	\$33,240
30%	\$26,460	\$30,240	\$34,020	\$37,770	\$40,800	\$43,830	\$46,860	\$49,860
40%	\$35,280	\$40,320	\$45,360	\$50,360	\$54,400	\$58,440	\$62,480	\$66,480
50%	\$44,100	\$50,400	\$56,700	\$62,950	\$68,000	\$73,050	\$78,100	\$83,100
60%	\$52,920	\$60,480	\$68,040	\$75,540	\$81,600	\$87,660	\$93,720	\$99,720
70%	\$61,740	\$70,560	\$79,380	\$88,130	\$95,200	\$102,270	\$109,340	\$116,340
80%	\$70,560	\$80,640	\$90,720	\$100,720	\$108,800	\$116,880	\$124,960	\$132,960
90%	\$79,380	\$90,720	\$102,060	\$113,310	\$122,400	\$131,490	\$140,580	\$149,580
100%	\$88,200	\$100,800	\$113,400	\$125,900	\$136,000	\$146,100	\$156,200	\$166,200
110%	\$97,020	\$110,880	\$124,740	\$138,490	\$149,600	\$160,710	\$171,820	\$182,820
120%	\$105,840	\$120,960	\$136,080	\$151,080	\$163,200	\$175,320	\$187,440	\$199,440
130%	\$114,660	\$131,040	\$147,420	\$163,670	\$176,800	\$189,930	\$203,060	\$216,060
140%	\$123,480	\$141,120	\$158,760	\$176,260	\$190,400	\$204,540	\$218,680	\$232,680

% of income

The U.S. Department of Housing and Urban Development (HUD) sets income limits that determine the eligibility of applicants for its assisted housing programs. HUD typically uses the Very Low-Income Limit (VLIL) as the basis for deriving other income limits. The VLIL is calculated by taking the 4-person income limit equal to 50% of the estimated median family income (based on the U.S. Census Bureau's ACS median family income estimates) and making adjustments if this income is outside formula constraints. For example, the VLIL is increased for areas where rental housing costs are unusually high in relation to the median income or if it is less than the relevant State non-metropolitan median family income level. See "FY2020 Briefing Materials" at <https://www.huduser.gov/portal/datasets/fy20.pdf>

HHFDC uses the HUD income limits for households at the 50% and 60% income levels as calculated for the Multifamily Tax Subsidy Project (MTSP) charts. For HHFDC programs, the 80% income level is calculated as the Multifamily Tax Subsidy Project (MTSP) VLIL (for FY 2020, it is also the HUD Section 8 VLIL) multiplied by 1.6 (or 80/50). The limits for households at other income levels are calculated in the same way. For further information see "Multifamily Tax Subsidy Income Limits" at <https://www.huduser.gov/portal/datasets/mtsp.html>

NOTE: This chart is provided as a guide only. You are responsible to ensure the accuracy of the numbers.

From: CLK Council Info
Sent: Wednesday, May 20, 2020 11:11 AM
Subject: Council/Public Hearing Speaker Registration/Testimony

Speaker Registration/Testimony

Name Kawai Kapuni
Phone 8082839216
Email kawaiolaakealii.kapuni@imua.ksbe.edu
Meeting Date 05-20-2020
Council/PH Committee Council
Agenda Item Bill 25
Your position on the matter Support
Representing Self
Organization
Do you wish to speak at the hearing? No
Written Testimony I support Bill 25. Hawai'i needs to represent the world on a bigger scale, and move towards a sustainable future. Bill 25 is a step in the right direction and must be done.
Testimony Attachment
Accept Terms and Agreement 1

IP: 192.168.200.67



CITY COUNCIL
City and County of Honolulu
May 20, 2020, 11:00 A.M.
(Testimony is 12 pages long)

TESTIMONY IN SUPPORT OF BILL 25 (2019) CD2, WITH SUGGESTED AMENDMENTS
Relating to the adoption of the State Energy Conservation Code

Chair Anderson, Vice Chair Kobayashi, and Members of the City Council:

Blue Planet Foundation supports Bill 25 (2019) CD2, a measure to modernize the City & County of Honolulu's (Honolulu's) building energy code. We are disappointed, however, that the current and proposed (FD1) measures fall well short of what is needed to address our climate challenge and ensure long-term affordability for all Honolulu residents.

The proposed bill adopts a revised version of the Hawai'i Energy Code for Honolulu to increase occupant health and comfort and reduce energy use. The proposed code revision reflects broad changes in technology, building materials, and best practices, while considering Honolulu's unique island and building environment.

We understand, however, that the updated Hawai'i Energy Code is already in effect for Honolulu pursuant to HRS §107-28. Nonetheless, Bill 25 CD2 would codify these changes, albeit with some amendments that result in a loss of savings and increased carbon emissions as compared with the current Hawai'i Energy Code. It does contain some improvements, however—hence our support.

Blue Planet is disappointed that the CD2 version of Bill 25 weakens many of the original energy efficiency and clean mobility provisions in the original draft of the measure. We **do not** support the following amendments in the CD2:

1. Establishing an alternative "points" system for compliance with the 25% EV charger readiness requirements;
2. Reducing the EV charger readiness requirements for retail establishments;
3. Reducing the EV charger readiness requirements for housing units in the 80 percent to 140 percent of the area median income for Honolulu;
4. Exempting production homes from the requirement that a ceiling fan or whole house fan is provided for bedrooms and the largest space that is not used as bedroom; and
5. Eliminating the specific county requirement for a solar water heater, heat pump, or smart water heater in new single-family homes.

We fear the proposed amendments in the proposed CD2 will result in a loss of energy savings for Hawai'i residents while missing opportunities to reduce our island's carbon emissions.

Further, Blue Planet has reviewed FD1 version proposed by Councilmember Elefante. We **support** the amendment to ensure that at least 10% of new parking stalls comply with the EV charger ready standard (or “points system” equivalent) for affordable housing developments at or below 100 percent of the area median income.

We **do not**, however, support the amendment in the proposed FD1 which further weakens the EV charger ready requirement by revising the “points system” to allow for compliance with fewer EV chargers and EV ready stalls than the CD2 draft.

Blue Planet has also reviewed the FD1 version proposed by Councilmember Menor. We **support** the proposed amendments clarifying the proposed minimum amperage for Level 2 charging and the clarification regarding a dedicated EV receptacle in each enclosed attached garage. We **do not** support the other proposed amendments in this proposed FD1 which further weaken the energy-saving standards in this measure.

In this testimony we will explain some of these key changes, show how the CD2 compares with the original draft of Bill 25 along a spectrum of options, and offer proposed amendments to increase energy savings and help “future-proof” new buildings to ensure the lowest-cost transition to clean mobility.

Basis for Blue Planet Foundation’s position

Blue Planet Foundation is a Hawai’i-based nonprofit organization. We work to clear the path for local, clean, renewable power. Through our advocacy for clean energy adoption, we seek to make our communities stronger, our energy more secure, our environment healthier, and our economy more robust. We appreciate Honolulu’s growing leadership on clean energy issues.

Over the course of the past year of conversation on Bill 25, four things have shifted that shape our thinking on this proposal:

1. **The climate crisis has grown.** Over the past half year we have increasingly experienced the consequences of climate change—a direct result of our continued use of fossil fuels. Australia has experienced devastating fires earlier this year, killing upwards of 1.5 billion animals and causing immeasurable damage. Hawai’i tied or broke over 270 high temperatures in 2019, and the waters surrounding the islands experienced record high temperatures. We are running out of time to aggressively act to reduce fossil fuel use globally.
2. **Fossil natural gas is being banned throughout the country.** An increasing number of cities across the country are banning natural gas for new buildings because of its threat to climate and health. Berkeley, California, was the first, followed in the state by San Jose, Mountain View, Santa Rosa and Brisbane. On the East Coast, Brookline, Massachusetts, last November became the first city in the state to ban new gas

hookups. Dozens of other cities, from Cambridge and Newton in Massachusetts to Seattle, are considering similar bans. On the mainland, natural gas is now responsible for more climate-heating emissions than coal is. Globally, fossil gas is the fastest-growing source of climate change emissions, according to study published in *Environmental Research Letters* in December 2019.¹

3. **The COVID pandemic and accompanying economic crisis have amplified the need to both drive down the cost of living while creating new opportunities for work.** Strong building energy codes—including broad EV ready provisions—accomplish both of these goals. Investments in energy efficiency typically pay for themselves many times over. By requiring the highest levels of efficiency, homeowners and renters in Hawai'i can enjoy a lower monthly cost of living—even when the initial investment is added to the mortgage or rent. Further, energy efficiency upgrades and electrical upgrades for EV readiness require labor—construction trades, electrical trades, specialists, etc. In essence, strong building energy codes swap paying for electricity (most of which is from imported fossil fuel) to paying for local jobs. Conversely, a weaker energy code means less expenditures for local jobs and more expenditures for imported fuels and carbon pollution. The COVID crisis requires a systemic approach—we must improve our island's macroeconomic balance sheet, and leveraging energy efficiency to drive down the cost of living while increasing local job opportunities is a potent tool to accomplish that.
4. **The upcoming version of the international building energy code calls for 20% EV ready parking.** The International Code Council (the organization which develops the model code for cities and states to adopt) recently approved the inclusion of EV charger ready requirements in their 2021 building energy code.² This new provision by the fairly conservative International Code Council acknowledges the growing recognition that the future of transportation is electric, and substantially cost savings can be realized by preparing for EV chargers while buildings are under construction.

The Council has an opportunity to adopt a modernized building energy code for O'ahu that reflects our need to seriously address the climate crisis while ensuring long-term affordability for residents and businesses. An amended Bill 25, ***as proposed in this testimony***, would do just that.

Energy efficiency is foundational for affordability & climate security

Energy efficiency is the most cost-effective energy resource available in the state, costing a fraction of fossil fuel-powered electricity.³ The anticipated energy savings arising from the 2015

¹ R B Jackson, et al. 2019. *Environmental Research Letters*. 14, 121001

² See <https://qz.com/1781774/new-us-building-codes-require-plugs-for-electric-cars/>

³ Energy savings delivered by the state's Hawai'i Energy program in 2016 cost 2.06 cents per kWh. See *Hawai'i Energy 2014 Annual Report*, available at

IECC (International Energy Conservation Code) were tabulated in a May 2016 Report prepared for the Department of Business, Economic Development & Tourism ("DBEDT").⁴ When translated into dollars, the billions in savings plainly illustrate the enormous benefit of the proposed amendments.

Statewide Savings	2016	2026	2030	2036
MWh	12,962	1,083,590	1,991,059	4,702,738
\$	\$4,000,000	\$337,000,000	\$619,000,000	\$1,463,000,000

(Note: energy cost savings calculated here utilize the average retail cost of electricity over the period 2011 – 2016.⁵)

Extrapolating the savings for O'ahu based on the percentage of energy used on the island versus statewide energy use, **the estimated 20-year savings for O'ahu is over \$971 million under the proposed building energy code revisions (approximately \$318 million in residential energy savings and \$653 million in commercial energy savings).**

The substantial savings resulting from reduced energy use dwarf the associated costs. In its February 2016 report, the Pacific Northwest National Laboratory stated: "The 2015 IECC provides cost-effective savings for residential buildings in Hawai'i. Moving to the 2015 IECC from the 2006 IECC base code is cost-effective for residential buildings in all climate zones in Hawai'i."⁶ Moreover, we understand that this cost-effectiveness may be *even higher* for many residential buildings in Hawai'i, where immediate cost savings can be obtained via lower construction costs *and* lower energy costs by utilizing the particularly important portions of the code applicable to the tropical zone. In such instances, the "payback" period would be immediate.

The original Bill 25 updated Hawai'i's 14-year-old building energy code with the International Energy Conservation Code's (IECC) 2015 model code (which is now in effect for O'ahu). Bill 25, however, relaxed some requirements in the IECC 2015 code regarding insulation and efficiency testing. Since the adoption of the IECC 2015 code at the state level in 2017, an updated code (IECC 2018)—with more stringent energy saving measures—has been released. What's more, an even newer code (IECC 2021) code is currently being finalized. The Bill 25 CD2 version contains additional exemptions from the original proposal (including the elimination of ceiling fans for production builders), resulting in increased energy costs for homes and buildings.

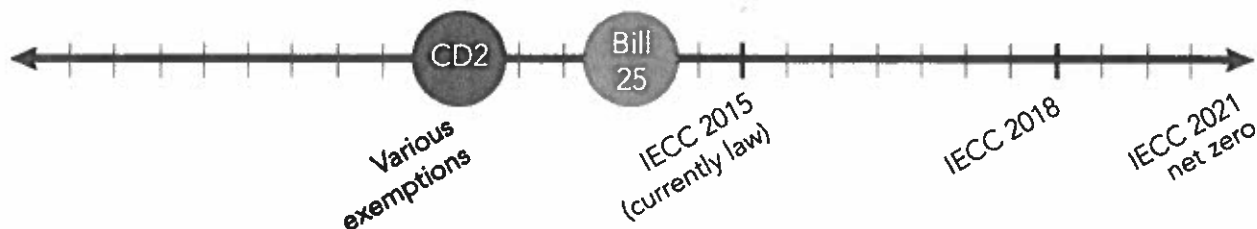
https://hawaiienergy.com/images/resources/ProgramYear2016_AnnualReport.pdf. Even with today's relatively low oil prices, electricity from oil-fired power plants costs around seven times more. See *DBEDT Monthly Energy Trends*, available at <http://dbedt.hawaii.gov/economic/energy-trends-2/>.

⁴ See The Cadmus Group, Inc., *Energy Savings Forecast for the 2015 Int'l Energy Cons. Code with Haw. Amendments* (prep'd for DBEDT, May 2016), available at <https://energy.hawaii.gov/wp-content/uploads/2016/07/Energy-Savings-Forecast.pdf>.

⁵ See *DBEDT Monthly Energy Trends*.

⁶ Pac. Northwest Nat'l Lab., *Cost-Effectiveness Analysis of the Residential Provisions of the 2015 IECC for Hawaii* (prep'd for the U.S. Dept. of Energy by, Feb. 2016), available at https://www.energycodes.gov/sites/default/files/documents/HawaiiResidentialCostEffectiveness_2015.pdf

The following shows roughly how the CD2 version compares with the original Bill 25, the existing law, and forthcoming building energy codes.



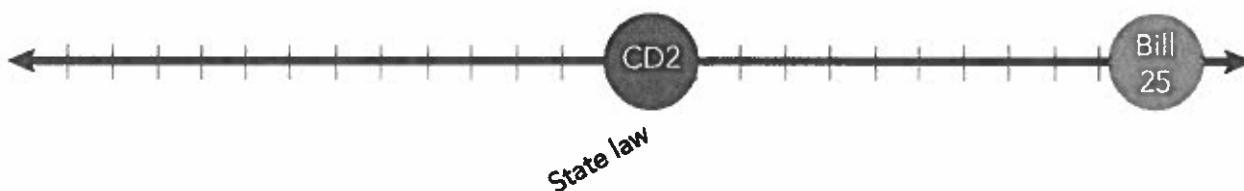
SUGGESTED AMENDMENT

Blue Planet respectfully requests that the Council revert back to the original language in Bill 25 regarding building energy efficiency requirements, including the requirements for testing, insulation, and the inclusion of ceiling fans or whole house fans for production homes.

All new homes should have solar or high efficiency water heaters

Solar water heating is recognized as an incredibly efficient—and cost-saving—strategy for most homes. Since 2010, the state has required solar water heating in almost all new homes. But this law has a variance process for rare exceptions where solar just doesn't work. Unfortunately, this variance has been abused by developers, despite the legislature's clear intent that variances "will be rarely, if ever, exercised or granted." Consequently, nearly half of new homes proposed or being built today on O'ahu include fossil-fuel gas water heaters. Thousands of homes on the hot Ewa Plain of O'ahu are slated to be built with gas water heaters, locking future homeowners into higher energy costs over years of home ownership. Instead of being part of our clean energy future, these homes will contribute to climate change for decades into the future.

The original Bill 25 ensured that all new homes came equipped with solar water heaters (or another renewable source), or—if a renewable source wasn't cost effective—a water heater that works as a heat pump, a "smart" grid-interactive water heater, or a water heater that uses at least 90% renewable gas. ***This requirement was removed in the CD2 version of the measure.***



SUGGESTED AMENDMENT

Blue Planet supports the original language in Bill 25 regarding water heaters for new single-family homes. That language states if a solar- or renewable-powered water heater does not

make sense economically—based upon a lifecycle cost-benefit analysis that incorporates the average residential utility bill and the cost of the new solar water heater system with a lifecycle that does not exceed fifteen years—then one of the following technologies advancing clean energy may be used instead:

Heat pump water heater. A heat pump uses electricity to move heat from one place to another (like a refrigerator operating in reverse) rather than generating its own heat like a traditional electric water heater. This makes heat pumps two to three times more efficient, according to the Department of Energy (DOE). Heat pumps can also work to help cool homes. According to the DOE, a heat pump water heater can save an O'ahu household of four people nearly \$1,000 per year on their electric bill.

Grid-interactive water heater (GIWH). A GIWH is a smart water heater that uses intelligent controls that are capable of interacting with and participating in utility load control or demand response programs. This allows the water heater to be an asset on the utility grid by smoothing out electricity usage and increasing the use of variable renewable energy. A local company, Shifted Energy, has already deployed hundreds of GIWH systems across O'ahu.

Renewable gas water heater. A renewable gas water heater would heat water using no less than 90% renewable gas fuel. This could be natural gas or methane produced from renewable sources (such as biomass or methane from wastewater treatment plants or landfills), or hydrogen gas developed from renewable sources.

This amendment to the proposed building energy code update provides flexibility to developers while ensuring that future homes will be built with high-efficiency or renewable water heaters.

Preparing for inevitable electric mobility is cheaper now than later

Blue Planet Foundation strongly supported the original "EV-ready" requirement for new commercial and multi-family residential construction in Bill 25. This is an important first step to lowering the overall cost of our transition to electrified transportation and make electric vehicles more accessible to O'ahu residents.

Electric vehicles (EV) are the fastest growing segment of new cars in Hawai'i. Over roughly the past year (January 2019 – January 2020), EV registrations on O'ahu increased by 31%, while registrations of gasoline-powered vehicles grew only 1 percent.⁷ We expect the number of registered EVs to grow substantially as new EV models with longer ranges and lower prices hit the market.

⁷ DBEDT Monthly Energy Trends, February 2020 (<http://dbedt.hawaii.gov/economic/energy-trends-2/>).

Electric vehicles will play an integral role in Hawai'i's clean energy future. While EVs that use the existing electricity grid to charge still use mostly fossil fuel, they use that fuel more effectively than burning fuel directly in a typical gasoline engine. This is why EVs are much less expensive to "fuel" per mile than their gasoline counterparts. Further, by using stored electrical energy, EVs can take advantage of intermittent solar, wind, and other clean energy resources. Most vehicles sit idle over 22 hours of the day, so they can become *de facto* energy storage devices if their batteries are plugged into the grid when they are not in use. With smart grid infrastructure in place, EVs become an essential component to electricity load and clean energy resource balancing—in addition to providing clean mobility solutions for Hawai'i residents.

Still, over 600,000 gasoline-powered vehicles are on O'ahu's roads—and from them comes nearly five million metric tons of climate-changing carbon pollution. What's worse, while O'ahu has made decent progress in reducing its carbon emissions from the electricity sector, emissions from ground transportation have been increasing in recent years.

The International Energy Agency has found that "the availability of chargers emerged as one of the key factors for contributing to the market penetration of EVs."⁸ Unlike gasoline car owners, charging behavior for EV owners indicates that more than 80% of EV drivers charge their cars at home or at work.⁹ In addition, a large share of the Honolulu's population lives in high density, multi-family residential buildings. The vast majority of parking facilities currently lack EV chargers. By ensuring that we are "future-proofing" new construction projects, this measure could be a critical step toward increasing electric vehicle charging options for those who don't have access to charging at home or at work.

Honolulu can expect more residents to choose EVs over gasoline vehicles as prices decrease. Battery costs have fallen precipitously over the past several years so that in many cases, the total cost of ownership for EVs is lower than for gasoline vehicles. Experts expect battery prices to continue to fall and as automakers increase the number of models and volume of EVs in the next few years, the upfront cost of EVs is expected to reach upfront cost parity with gasoline vehicles by 2024.¹⁰ In part due to falling costs and increasing consumer demand, and in part due to government policies supporting EVs, nearly all of the world's leading automakers have announced aggressive strategies and investments in EVs during the past two years.

The most challenging aspect of EV charger installation is the common lack of electrical capacity and distributed subpanels to support broad deployment of charging infrastructure. **By choosing not to install the wiring and conduit upfront in new construction, developers are forcing tenants to pay for expensive retrofit costs to upgrade power capacity and wiring to their parking stalls.**

⁸ *Global EV Outlook 2017*, <https://www.iea.org/publications/freepublications/publication/GlobalEVOutlook2017.pdf>.

⁹ *Id.*

¹⁰ See Bloomberg New Energy Finance, <https://bnef.turtl.co/story/evo2018>.

Studies have shown that **installing EV infrastructure at the time of construction can be 91% less expensive than post-construction retrofits**, and per stall installation costs can be reduced through economies of scale.¹¹ Vancouver, BC, found that the average cost of adding charging infrastructure during construction was as low as \$300 (CAD) per stall compared to an estimated \$3,300 for a later retrofit.

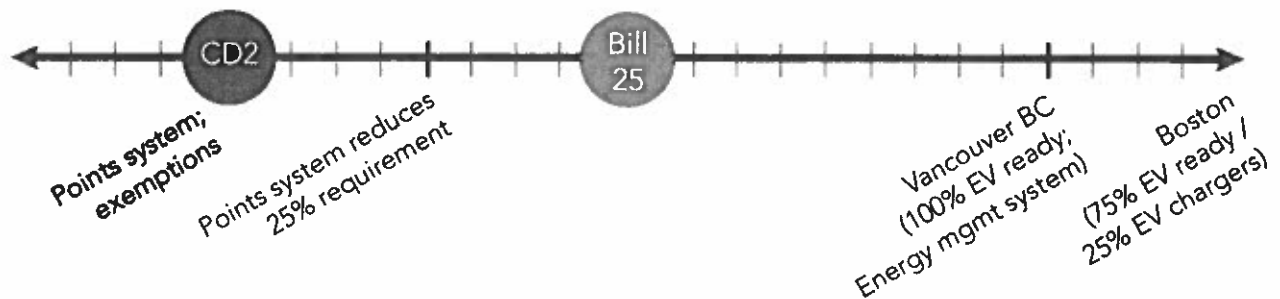
EV charger ready requirements don't require the installation of the actual EV charging infrastructure, they simply require that the power capacity and conduit be set up during construction, which dramatically reduces retrofit costs at the time of charger installation, creating cost savings downstream for residents and tenants.

Cities around North America are adopting EV-ready requirements for commercial and residential new construction. Seattle, San Jose, Atlanta, San Francisco, and Oakland have adopted requirements for a certain percentage of stalls to be ready for Level 2 charging. Vancouver, British Columbia, now requires that 100% of new parking stalls be built ready for EV chargers. Honolulu—with the second highest adoption of EVs per capita nationwide—should implement a similar policy.

Electric vehicles are better for the environment and the economy and can help O'ahu reach its renewable energy and transportation goals. The time has come when Honolulu residents want to purchase electric vehicles but need convenient and affordable charging options. An EV-ready requirement will ensure that the EV charging infrastructure network necessary to support the influx of electric vehicles can be installed more efficiently and cost-effectively in new construction projects. It will provide new EV owners—particularly those that will live in new multi-family residential buildings—with the confidence that they will be able to access charging at home, at the workplace, and in public spaces.

The original Bill 25 set a standard for electric vehicle (EV) charger ready provisions (electrical panel capacity and wiring conduit) for 25% of new parking spaces in commercial, multi-family, and residential construction above a certain number of parking spaces. This was a modest proposal for new construction—cities across the nation are requiring an increasing percentage of EV charger ready parking. The city of Boston requires that 100% of new parking in certain areas be EV ready, with 25% of stalls having charging equipment already installed. Vancouver, BC, requires that 100% of stalls be wired for EV chargers, while allowing for an energy management system to control the overall electricity demand (and therefore reduce the upfront electrical capacity investment).

¹¹ See <http://evchargingpros.com/wp-content/uploads/2017/04/City-of-SF-PEV-Infrastructure-Cost-Effectiveness-Report-2016.pdf>.



The CD2 creates an alternative “points system” whereby developers can reduce the number of EV ready stalls in any single development by installing EV ready equipment or chargers in common areas, or increasing the number of EV ready stalls or chargers in other projects. This approach will undoubtedly create complex enforcement issues across development projects and phases. Further, by allowing double and triple points for EV readiness or chargers in common areas, the management of charging will become incredibly difficult. Will residents be allowed to occupy all of the “visitor” parking to charge? Because of the challenges common area charging presents, Vancouver exempted visitor stalls from their 100% EV ready requirement. This “points system” sets an unusual precedent—no other state or city takes such a convoluted approach.

The FD1 version of Bill 25 reduces the EV charger requirements even further by allowing additional points for installing chargers or EV charger ready infrastructure in visitor stalls. By providing 50 points for DC fast charger, a developer can simply install a single charger per 200 parking stalls (instead of electrifying 50 parking stalls under the 25% requirement). Compare this outcome with a new building in Vancouver, where all of the stalls will be EV charger ready, enabling managed charging across a fleet of cars for the benefit of the vehicle owners—and potentially all electricity customers by providing a controllable, flexible load to the utility.

The IECC 2021 model code includes a 20% EV charger ready requirement (at Level 2, 240V/40A) for new commercial and residential construction. This new provision by the fairly conservative International Code Council acknowledges the growing recognition that the future of transportation is electric, there is value in having a fleet of vehicles plugged in to the electricity grid, and substantial cost savings can be realized by preparing for EV chargers while buildings are under construction. The CD2 also reduces the EV ready requirement to 16 amps instead of 32 amps for townhome and single-family dwellings—a deviation from the standard 40-amp requirement for Level 2 charging (even a clothes dryer is typically at 30 amps).

Finally, the CD2 exempts all “affordable” projects below the 100% Area Median Income from EV charger ready requirements. This only increases the future costs of residents in the low- to moderate income range when they adopt low-cost EVs in the future. The FD1 requires 10% of stalls comply.

SUGGESTED AMENDMENTS

Blue Planet Foundation respectfully requests that Councilmembers consider two amendments to strengthen Bill 25 CD2 to better "future-proof" new multi-family homes and buildings in preparation for low-cost electric vehicle proliferation.

1. Blue Planet believes that Bill 25 should require that 100% of new parking stalls be EV charger ready, with a provision to allow an energy management system, similar to Vancouver, BC.
2. Second, Bill 25 should be amended to require 40A instead of 16A for the Level 2 EV charger ready requirements for enclosed attached garages. The Level 2 standard globally is 240V/40A.

With the rapid rate of change in the adoption of EVs, we expect that most new cars sold in Hawai'i will be electric or hybrid within a decade. Further, requiring a lower percentage (or using a "points system") creates uncertainty about how the limited EV charger ready stalls will be allocated to future homeowners, tenants, or renters. Will those who would like to install an EV charger be able to access the one-in-four stalls that are EV-ready? This measure should reflect and anticipate the future where nearly all vehicles are zero emissions. This is particularly important given the slow pace of updating Honolulu's building energy code. Failure to do so will lead to unnecessary expense in retrofitting relatively recent buildings with what will soon be commonplace amenities.

This is also an issue of equity. It's likely that the initial group of individuals purchasing EVs will be more affluent than later adopters—this holds true for many innovations, as they are initially more expensive. They will be positioned to take advantage of the 25% (or however many) of stalls that are EV-ready. But what about later adopters who are less affluent? Any policy requiring less than 100% EV charger ready may have the effect of burdening these later EV adopters with the high costs of retrofitting to install EV infrastructure in already completed buildings. Simply requiring that all stalls are EV-ready avoids this potential inequity.

Requiring that all new parking stalls be EV-ready is not without precedent. Again, the city of Vancouver, BC, passed a law updating their four-year-old EV-ready requirement from 20% of new residential stalls to 100% of new stalls.¹² The law took effect January 1, 2019. Since 2014, existing requirements have resulted in 20,000 electric vehicle-ready stalls in buildings.¹³ Other cities are considering similar 100% EV-ready policies.

To accomplish this, Blue Planet Foundation requests that the proposed language in Bill 25 CD2 relating to Subsection C406.8 should be modified as follows (underlined indicates additions, ~~strikethrough~~ indicates deletions):

¹² See <https://vancouver.ca/streets-transportation/electric-vehicles.aspx>

¹³ See <https://www.vancourier.com/news/city-council-boosts-electric-vehicle-infrastructure-1.23202750>

C406.8 Electric vehicle infrastructure. ~~All parking stalls in n~~New residential multi-unit buildings ~~that have eight or more parking stalls, and new commercial buildings that have twelve or more parking stalls,~~ shall be electric vehicle charger ready ~~for at least 25 percent of the parking stalls.~~ As used in this section, "electric vehicle charger ready" means that sufficient wire, conduit, electrical panel service capacity, overcurrent protection devices and suitable termination points are provided to connect to a charging station capable of providing simultaneously an AC Level 1 ~~2~~ charge per ~~required~~ parking stall ~~for residential and multi-unit buildings. For commercial buildings, at least 25 percent of the parking stalls are required to be AC Level 2 charger ready.~~ Charge method electrical ratings are provided below:

CHARGE METHODS ELECTRICAL RATING

Charge Method	Normal Supply Voltage (Volts)	Maximum Current (Amps – Continuous)	Supply Power
AC Level 1	120V AC, 1-Phase 120V AC, 1-Phase	12A 16A	120VAC/20A (12-16A continuous)
AC Level 2	208 to 240V AC, 1-Phase	≤32-80A	208/240VAC/20-100A (16 32-80A continuous)

Blue Planet Foundation welcomes the opportunity to work with the Council on identifying ways to make this EV-ready policy more acceptable to all stakeholders. Potential approaches to decreasing the potential burden of this proposed EV-ready policy (as amended) include:

1. **Phase-in period.** Increase the required percentage of stalls in phases (i.e. 25% of new stalls starting January 1, 2020; 50% starting January 1, 2021; 75% starting January 1, 2022; 100% starting January 1, 2023).
2. **Limit requirement.** For multi-family buildings, visitor parking could be excluded (Vancouver does not require visitor parking to be EV-ready).
3. **Allow the use of EV Energy Management Systems (EV EMS).** Providing the capability for every parking stall to charge an EV at Level 2 may lead to unnecessary expense in developing the building's electrical capacity (transformer, circuit capacity, etc.). In reality, all cars charging at once is an unlikely scenario, but engineers would need to design for that extreme possibility. In order to minimize the impact on builders and the utility grid, Vancouver's requirements allow the use of an EV EMS. Because most personal vehicles are parked for 8 to 10 hours per day at home, an EV EMS allows multiple vehicles to share a circuit. This significantly reduces construction costs and utility costs. In Vancouver's law, an EV EMS must ensure that every EV charging outlet receive at least 12kWh over an 8-hour period. This means that, even if a vehicle is plugged into every single outlet at once, all EVs will receive enough energy for the next

day (about 50 miles with today's EV technology, or about twice the average daily distance driven on O'ahu).

Blue Planet Foundation would be happy to provide draft language to the Council accomplish this and ensure that we have a smart EV-ready policy for new construction on O'ahu that maximizes the benefits of clean transportation and smart buildings for all.

Conclusion

Blue Planet sees strong alignment between our urgent needs to reduce our carbon emissions and increase the long-term affordability for all O'ahu residents. Bill 25 provides an opportunity to solidly address both. Unfortunately, the amendments made in the CD2 and the FD1 versions of Bill 25 reduce this measure's effectiveness, resulting in a building code that will cause more energy waste than the original draft and require expensive retrofitting for EV charging infrastructure after buildings are complete.

Again, the COVID pandemic and accompanying economic crisis have amplified the need to both drive down the cost of living while creating new opportunities for work. A revised Bill 25—as we've proposed here—would help accomplish that.

We urge the Council to consider Blue Planet Foundation's proposed amendments to strengthen Honolulu's building energy code, for our families and for our future.

Mahalo for your consideration and this opportunity to provide testimony.